

**REMARKS**

Claims 1-4 are pending. By this Amendment, claims 1 and 3 are amended.

Reconsideration based on the following remarks is respectfully requested.

**I. The Claims Satisfy All Formal Requirements**

The Office Action objects to claims 1 and 3 based on informalities. Claims 1 and 3 are amended to obviate the objection. Withdrawal of the objection to the claims is respectfully requested.

**II. The Claims Define Patentable Subject Matter**

The Office Action rejects claims 1-4 under 35 U.S.C. § 102(e) over Hunt et al. (U.S. Patent No. 6,539,422); and claims 1-4 under 35 U.S.C. § 103(a) over Hunt in view of Westberg et al. (U.S. Patent No. 5,946,309). These rejections are respectfully traversed.

Hunt discloses a system for controlling a plurality of automatic data collection (ADC) device platforms using a remote computing system. The remote computing system has browsing software adapted for receiving and sending HTML documents, DHTML documents and XML documents over the World Wide Web so that the computing system can communicate with a network of ADC platform devices. Hunt requires a HTTP server on each of the ADC platform devices to allow the HTML, DHTML and XML documents to be transferred between the ADC platform devices and the remote computing system. See, for example, col. 2, lines 37-43 of Hunt. Thus, the HTTP server eliminates the need for reversibility in the encoding/decoding of the data communications between the remote computer and the ADC device platform.

One aspect of the claimed invention is that diverse protocols of a plurality of devices is reversibly translated into discrete data streams using a common protocol and then decoded at the remote control center, thereby enabling remote virtual engineering. The claimed invention uses protocol conversion to avoid the requirement for an HTTP server on the remote units. This distinction between the claimed invention and Hunt is critical because the functionalities required for telemetry, data collection, operating instructions, and configuration instructions are not practical using Hunt's described

architecture of web protocols. For example, the amount of software development effort required to make the conversion of the plurality of protocols for the plurality of devices within the local HTTP server is substantial.

The Office Action states that Hunt "implies" the encoding and decoding steps. However, Hunt actually makes no reference to the reversibility of its protocol conversion. In fact, there is no need for a decoding step in Hunt because an SNMP master agent is incorporated into the ADC device platform of Hunt, which performs the encoding/decoding locally to the device. See, for example, col. 3 line 53-57 of Hunt. As noted above, this application is practical for the limited functionality of an ADC device platform but presents difficulties in complex applications.

Further, one of the advantages of the claimed invention is its "transportability" or applicability to diverse pieces of equipment in diverse industries. As a practical matter, the system disclosed in Hunt is not transportable. As described in Hunt, *each* ADC device platform to be controlled has its own HTTP server that sends and receives HTML, DHTML, and XML documents and its own SNMP master agent. The use of HTTP servers is substantial. The amount of software development effort required to make the conversion of the plurality of protocols for the plurality of devices within the local HTTP server is significant. In contrast, there are no HTTP servers used in the claimed system and method.

Essentially, in Hunt, *each* HTTP server in *each* ADC unit would have to be specifically designed and configured for the particular ADC unit to be controlled. This effort and resulting cost would make it impractical for Hunt's system to be used in an industrial environment. Specifically, the types of equipment at issue in Hunt -- hand-held devices -- are much more sophisticated than those normally at issue in production environments. While it may be practical to have HTTP servers in sophisticated ADC units, it certainly is not so for industrial equipment.

According to the present invention, translators are attached to each piece of equipment to be monitored/diagnosed. The translators reversibly translate raw serial data from the equipment into a common communications protocol suitable for

transmission over the Internet (e.g., TCP/IP). Subsequently, *at the remote site*, the data is decoded back into raw serial data for analysis. In Hunt, there is no decoding performed *at the remote site*. Hunt uses HTML, DHTML, and XML as the common communications protocol to communicate with the remote site. This protocol is not decoded for analysis purposes at the remote site, as the computing systems at the remote site use “the HTML documents, DHTML documents, and/or XML documents to control the hand-held device.” See, for example, col. 2, lines 36-39 of Hunt. Further, any decoding performed in Hunt is *local* to the ADC unit. Specifically, *each* ADC unit has a translator that decodes data received from the SNMP master agent into a communications protocol suitable for the particular ADC unit.

Westberg discloses a telecommunication system that generates more than one type of communication data stream, where each data stream exhibits a distinctive data transfer format. Westberg attempts to improve bandwidth utilization by first reformatting the different data transfer formats so that all of the data is compatible with a common data transfer protocol, and then multiplexing the communication data into a single data stream which can be transmitted over a common telecommunication channel. See, for example, column 3, line 45 - column 4, line 3 of Westberg. The Office Action asserts that Westberg discloses the steps of encoding/decoding data. However, one of ordinary skill in the art would not be motivated to combine the system of Westberg with the system of Hunt because Hunt’s system simply does not require an encoding/decoding step. As explained above, all communication between the ADC unit and the remote computer of Hunt is done over the World Wide Web using standard XML, HTML, and DHTML languages. Thus, there is no reason to encode or decode the information sent between the ADC unit and remote computer in Hunt.

For at least the above reasons, it is respectfully submitted that claims 1-4 are patentable over Hunt and Westberg. In light of the foregoing remarks, Applicant respectfully requests that a timely Notice of Allowance with respect to all of the pending claims be issued in this case.

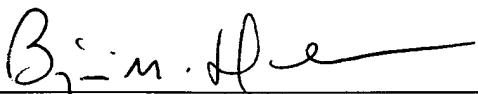
Appl. No. 09/882,739  
Reply filed March 10, 2005 in reply to  
Office Action dated December 10, 2004

Authorization is given hereby to charge any deficiency or credit any overpayments  
to Deposit Account No. 01-1785.

Respectfully submitted,

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Dated: New York, New York  
March 10, 2005

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